

REMARKS

Applicants appreciate the examination of the application that is evidenced by the Official Action of May 1, 2006. In response, Applicants have amended Claims 1, 9-10 and 14-15 to address the section 112 issues raised by the Examiner. Claims 26-27 have also been added.

However, Claim 17 has not been amended because the distinction between the "replacement search key segment" and the "first search key" is correctly recited. As described throughout the application, according to an embodiment of the invention, the "first search key", which typically comprises multiple search key segments, requires multiple data cycles to load into the search engine (because it is a full-length key (see, e.g., FIGS. 6A-6C and page 17, 1st paragraph)), but the replacement search key segment may require only a single data cycle to load into the search engine:

In order to prevent the CAM interface from being a bottleneck to system performance, the plurality of databases within the CAM core 54 may be searched using variations of a primary search key. Thus, it becomes unnecessary to repeatedly load the entire contents of each search key across the CAM interface for each search operation within a respective database. Instead, during the fourth through tenth cycles illustrated by FIG. 6A, the shorter replacement search key segments associated with the second through eighth search operations may be loaded into the search engine 50. These replacement search key segments, which are illustrated as REPLACEMENT KEY SEGMENTS 0-6, may be combined with one or more segments of the primary search key (or other search key) to define a desired search key for a respective search operation. This search key may constitute a search word (i.e., comparand) that is applied to a database within the CAM core or, more typically, the search key may be modified by a global mask stored within the search engine. Moreover, whereas FIG. 6A illustrates that a respective single cycle may be required to receive the multi-database search instruction and to receive each of the search key segments, alternative embodiments may use a fewer or larger number of cycles depending on the bandwidth requirements and capabilities of a particular system. ('353 application, page 17, underline added).

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In view of the above claim amendments and explanation of Claim 17, Applicants respectfully submit that all claims are now in condition for allowance.

Applicants also note that the Office Action does not indicate consideration of Applicant's Information Disclosure Statements (IDSs) submitted electronically on March 5, 2004 and February 2, 2005, copies of which are attached, along with a copy of the acknowledgment receipts. Applicants respectfully request consideration of the references cited in the IDSs and return of copies of the initialed forms PTO-1449 indicating such consideration.

The Examiner is encouraged to contact the undersigned by telephone at 919-854-1407 in the event any issues remain which may prevent issuance of the present application.

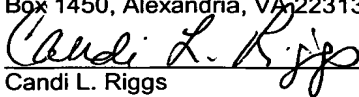
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Candi L. Riggs